DOCUMENT RESUME

ED 160 638 95 **TM 007 725**

AUTHOR Cahen, Leonard S.

TITLE Report of "D" Testing (Phase III-B). BTES. Beginning Teacher Evaluation Study. Technical Note Series. Technical Note III-5.
INSTITUTION California State Commission for Teacher Preparation and Licensing, Sacramento.; Far West Lab. for Educational Research and Development, San Francisco, Calif.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Oct 77
CONTRACT 400-75-0001
NOTE 14p.; For related documents, see ED 151 381, 382, and 383

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Academic Achievement; *Achievement Gains; *Achievement Tests; Elementary Education; *Elementary School Mathematics; Grade 2; Grade 5; *Reading Achievement; Statistical Data; Student Testing; Testing Programs

ABSTRACT

The "D" testing program, the fourth in a year-long series of test administrations, is summarized. As part of the Beginning Teacher Evaluation Study, reading and mathematics achievement was studied in second and fifth grade classes. The samples for the "D" testing were 97 second grade students out of 150 in the "A" testing, and 89 fifth grade pupils out of 134 in the "A" testing. Summary statistical data are given for five reading subtests and three mathematics subtests for grade two, and for six reading subtests and three mathematics subtests for grade five. (CTM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED160638

SCOPE OF INTEREST NOTICE

The ERIC Facility has assigned this document for processing to: TM | SP

In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

FAR WEST LABORATORY

This work was completed pursuant to Contract #400-75-0001 between the Department of Health, Education and Welfare, National Institute of Education and the California Commission for Teacher Preparation and Licensing.

The Far West Laboratory for Educational Research and Development, 1855 Folsom Street, San Francisco, California 94103, is a nonprofit organization supported in part by the United States Office of Education and the National Institute of Education, Department of Health, Education and Welfare. The opinions expressed in this publication do not necessarily reflect the position or policy of these agencies, and no official endorsement by them should be inferred.

REPORT OF "D" TESTING

Overview

The design of Phase III-B of the Beginning Teacher Evaluation Study (BTES) specifies four testing occasions. These testing occasions occurred in September-October, 1976; December, 1976; May, 1977; and September-October, 1977 and are referred to as occasions "A", "B", "C", and "D" respectively. Descriptive materials on the first three occasions are included in Technical Note III-2, III-3, and III-4 (Cahen, 1976; 1977a; 1977b).

The major portion of the Phase III-B study consists of a complex process-product design. A wide variety of process measures were collected in the A-B and B-C time intervals. Establishing two time periods within the same school year is intended to provide a replication of the study with the same students, teachers, and field methods. The time periods are not precise replications since among other things, the students have matured somewhat and the two time intervals are not equivalent in length. However, this design, with its quasi replications, does have many advantages. These data collected at and between the "A", "B", and "C" occasions forms the core of the Phase III-B correlational study. In addition to the focus on the A-C time period, achievement data were collected in the fall of 1977 (occasion "D"). The purpose of this testing was to allow us to check the "summer loss" phenomenon. In some cases it has been shown that achievement assessed over a school year (fall to spring) varies considerably from achievement assessed over the calendar year (fall to fall). Student achievement data were collected at the "D" occasion in order to allow the investigation of this point as a secondary area of interest.

The subtests used were identical to those used at the "A", "B", and "C" occasions. However, the students were one year older at "D" testing than at "A" testing. Those subtests which were most appropriate at the "A" testing were in several cases very easy by the "C" testing occasion. If there were ceiling effects at "C" testing then no use could be made of scores at "D". Several subtests were designed to be most appropriate for the A-B period, and hence were of little use for the "D" testing.

In addition, the students to be tested were no longer in the classes of the teachers who volunteered for the study. Hence target students had to be taken from their new classes for the testing. It was our desire to keep this inconvenience to the "new" teachers relatively small.

For these reasons, the length of testing sessions were shortened. Subtests with the most appropriate ranges for capturing summer changes were selected from the BTES battery and arrangements were made to give the reduced battery in two testing sessions per student. Since our interest in summer achievement changes were restricted to cognitive growth, the affective scales were also omitted from the "D" testing. These reductions left eight subscales at grade 2 and nine subscales at grade 5 and hence provided adequate areas for examining the summer change phenomenon.

This technical note describes the achievement testing carried out at the "D" testing occasion (September-October, 1977). This note will discuss, in turn, the sample of students tested, test administration procedures, data processing, and psychometric properties of the subscales.

Sample

The first task in the "D" testing was to locate target students in their new classes. Two testing coordinators began contacting schools and teachers during the first week of school in early September, 1977.

In each case, as many students were located as possible, and arrangements were made for a testing room on a day when the current teacher or teachers could release the students. In three cases, schools which had operated in the 1976-77 school year were closed for the 1977-78 school year. Students from these schools were traced to nearby schools. Those students who had transferred from the district or had gone to schools other than those in our original sample, in most cases, were not easy to locate. As a result, the number of students actually found for the "D" testing was somewhat less than the number tested at "C". Of the 139 grade 2 target students tested at "C", 113 were located. Analogous figures for grade 5 are 123 and 99 respectively.

Testing was scheduled for all students who were located and scores were obtained for a very high proportion of these students. A total of 16 grade 2 students and 10 grade 5 students were not tested for one of the following reasons. Several students did not return parental permission slips and hence were not tested. Several more could not be tested until the completion of State-wide testing programs. The conflict would have delayed BTES testing until mid-Octiber and thus provided scores which would be of little value to the study. The delay would allow considerable schooling to occur and hence the "D" scores would not be comparable to those for students tested in late September. Several other students were absent on the scheduled testing day. All of the "D" testing occurred between September 19 and October 5.

Table 1 shows the number of second and fifth grade students tested at each of the four test administrations.

Test Administration

The tests were administered by BTES staff and two field workers

Table 1

Number of Second and Fifth Grade Target Students
Tested at "A," "B," "C," and "D" Test Administrations

	"A" Test Administration	"B" Test Administration	"C" Test Administration	"D" Test Administration
Second Grade	150	146	139	97
Fifth Grade	134	128	123	89

who had administered the BTES battery during the 1976-77 school year. We again set up special rooms in each school for the administration of the tests. Target students were removed from the regular classrooms and tested as a group. Because the students were more mature than last year and were also very familiar with the test, the testing sessions went smoothly. The test administrators reported that the "D" testing sessions were similiar to the "A", "B", and "C" test administrations.

Data Processing

Scoring procedures and keys were carefully checked. After key punching the test data were processed by a standard item analysis program. Psychometric properties were examined for each of the subscales. We did not return test scores to the schools as the "target students" had new teachers who were not familiar with the content of the test scales nor with the previous three testing reports.

Psychometric Properties of the Tests

Tables 2 and 3 display a summary of psychometric data for the grade 2 reading and mathematics subtests. Tables 4 and 5 provide analogous information for the grade 5 reading and mathematics subtests. In Tables 2 through 5 $\bar{P}$ served as an index of the overall difficulty of the test. This statistic is defined as a subtest mean divided by the number of items. The sub-scales in the batteries yielded psychometric properties similar to those on the other testing occasions. The internal consistencies of the scales were uniformly high especially when subscale length is taken into consideration.

Table 2

Psychometric Data
Grade 2 Reading Subtests
"D" Administration
(N = 97)

Subtests	# of Items	$\bar{X}$	σ	$\bar{p}$	Alpha	Standard Error of Measurement
Compound Words	8	7.09	1.30	.88	.65	.72
Root Words and Affixes - D	9	5.92	1.84	.66	.58	1.13
Root Words and Affixes - C	8	5.35	2.48	.67	.62	1.42
Syllables	10	5.42	2.91	.54	.58	1.79
Total Comprehension	23	12.20	7.54	.53	.86	2.73

Table 3

Psychometric Data
Grade 2 Mathematics Subtests
"D" Administration
(N = 97)

Subtests	# of Items	$\bar{X}$	σ	$\bar{p}$	Alpha	Standard Error of Measurement
Place Value/ Numerals	25	14.70	6.58	.59	.85	2.51
Addition and Subtraction No Regrouping	16	11.85	4.45	.74	.84	1.74
Speed Test Addition and Subtraction	28	16.96	6.60	.61	.88	2.27

Table 4

Psychometric Data
Grade 5 Reading Subtests
"D" Administration
(N = 89)

Subtests	# of Items	$\bar{X}$	σ	$\bar{p}$	Alpha	Standard Error of Measurement
Root Words and Affixes	15	6.67	3.83	.44	.67	2.13
Synonyms	15	8.11	3.91	.54	.72	1.99
Pronouns	16	10.34	4.43	.64	.80	1.91
Word Meaning in Context	20	10.39	7.35	.52	.90	2.27
Topic Sentence	10	4.51	3.47	.45	.76	1.63
Fact and Opinion	10	3.61	3.38	.36	.71	1.72

Table 5

Psychometric Data
Grade 5 Mathematics Subtests
"D" Administration
(N = 89)

Subtests	# of Items	$\bar{X}$	σ	$\bar{p}$	Alpha	Standard Error of Measurement
Multiplication	16	10.75	4.90	.71	.85	1.82
Fractions	15	5.03	5.04	.38	.84	1.96
Division	16	7.79	5.78	.46	.88	1.97

Summary

The "D" testing was carried out between September 19 and October 5. There was some attrition in the sample due mainly to student transfer from school to school. Subscores with acceptable psychometric properties were obtained for each student on eight scales at grade 2 and nine scales at grade 5.

REFERENCES

Cahen, Leonard S. Report on "A" testing (Technical Note III-2). Beginning Teacher Evaluation Study, Far West Laboratory for Educational Research and Development, San Francisco, 1976.

Cahen, Leonard S. Report of "B" testing (Technical Note III-3). Beginning Teacher Evaluation Study, Far West Laboratory for Educational Research and Development, San Francisco, 1977a.

Cahen, Leonard S. Report of "C" testing (Technical Note III-4). Beginning Teacher Evaluation study, Far West Laboratory for Educational Research and Development, San Francisco, 1977b.